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10/559,507	12/05/2005	Manfred Hubinger	HUBINGER M ET AL 2 PCT	3822
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COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			RALIS, STEPHEN J	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/559,507	Applicant(s) HUBINGER ET AL.
	Examiner Stephen J. Ralis	Art Unit 3742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(o).

Status

- 1) Responsive to communication(s) filed on 22 January 2008.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 2-14 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 2-14 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on 05 December 2005 is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/165/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment/Arguments

1. Applicant's arguments with respect to claims 2-14 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 2-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claims 13 and 14 recites the limitation "an amount of welding wire". It is unclear to the examiner if the "an amount of welding wire" is an additional structural limitation to that of "a welding wire" previous recited in the independent claims. Further clarification is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 10-13 is rejected under 35 U.S.C. 102(b) as being anticipated by Noble (U.S. Patent No. 1,508,713).

Noble discloses a welding torch (arc welding apparatus) having a central axis (see line correlating to the axis of the electrode 6; see Figures 1, 3) comprising: a torch body (electrode delivery device 4); a drive unit (rolls 17; page 2, lines 6-87; see Figures 1, 3) for conveying a welding wire (electrode 6) at different wire-conveying speeds or for a forward/rearward wire conveyance; a hose pack (flexible guide tube 7) connected at a connection region to the torch body at an angle of up to 90 degrees relative to the central axis (backend of ball socket type joint 22; page 2, lines 96-105); and a wire buffer storage (front end of ball socket type joint 22; page 2, lines 96-105; see Figures 1, 3) arranged immediately after the connection region within the torch body, the wire buffer storage (front end of ball socket type joint 22; page 2, lines 96-105; see Figures 1, 3) containing an amount of welding wire (electrode 6) following a curved course between the connection region and the drive unit (see Figure 3), the amount of welding wire contained in the wire buffer storage being adjustable by a change of the curved course.

With respect to the limitation of the amount of welding wire contained in the wire buffer storage being adjustable by a change of the curved course, Noble discloses the ball socket joint (22) being rotatable (page 2, lines 96-105; see Figures 1, 3). Since the ball socket joint (22) is rotatable and the welding wire (electrode 6) is within the wire buffer storage (front end of ball socket type joint 22; page 2, lines 96-105; see Figures 1, 3), the amount of welding wire (electrode 6) is implicitly adjustable by a change of the curved course by the rotation of the ball socket joint (22). Therefore, Noble fully meets

"the amount of welding wire contained in said wire buffer storage being adjustable by a change of said curved course" given its broadest reasonable interpretation.

With respect to the limitations of claim 10, Noble discloses the welding wire (electrode 6) being unguided and the interior of the ball socket joint (22) as limit elements arranged in the torch body (body (electrode delivery device 4) to delimit the curved course of the unguided welding wire. Therefore, Noble fully meets "the welding wire is unguided and wherein limit elements are arranged in the torch body to delimit the curved course of the unguided welding wire" given its broadest reasonable interpretation.

With respect to the limitations of claim 11, Noble discloses the connection of the hose pack (flexible guide tube 7) to the torch body (electrode delivery device 4) by the rear end of the ball socket joint (22).

With respect to the limitations of claim 12, Noble discloses the connection of the hose pack (flexible guide tube 7) to the torch body (electrode delivery device 4) by the rear end of the ball socket joint (22). Noble further discloses the ball socket joint (22) being rotatable (page 2, lines 96-105; see Figures 1, 3). Since the ball socket joint (22) is rotatable and the welding wire (electrode 6) is within the wire buffer storage (front end of ball socket type joint 22; page 2, lines 96-105; see Figures 1, 3), the amount of welding wire (electrode 6) is implicitly adjustable by a change of the curved course by the rotation of the ball socket joint (22). Therefore, Noble fully meets "the hose pack is arranged to be adjustable relative to the torch body so as to enable a change of the

amount of welding wire contained in the wire buffer storage by such an adjustment" given its broadest reasonable interpretation.

7. Claims 4, 7, 10-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Lorentzen (U.S. Patent No. 5,521,355).

Lorentzen discloses a welding torch (Title) having a central axis (see Figures 1, 3) comprising: a torch body (torch housing 40); a drive unit (pulling charging means 28) for conveying a welding wire (wire electrode 20) at different wire-conveying speeds or for a forward/rearward wire conveyance; a hose pack (torch cable 42) connected at a connection region (rear end of torch housing 40) to the torch body (torch housing 40) at an angle of up to 90 degrees relative to the central axis (see Figures 1, 3); and a wire buffer storage (round region of torch housing 40 before pulling charging means 28; see Figure 3) arranged immediately after the connection region (rear end of torch housing 40) within the torch body (torch housing 40), the wire buffer storage (round region of torch housing 40 before pulling charging means 28; see Figure 3) containing an amount of welding wire (wire electrode 20) and being formed from a member (conduit 140) selected from the group consisting of a wire core and a guide hose (conduit 140 including a flexible liner with a bore; column 7, lines 2-6; see Figure 3), the member (conduit 140) following a curved course (see Figure 3) between the connection region (rear end of torch housing 40) within the torch body (torch housing 40) and the drive unit (pulling charging means 28), the amount of welding wire contained in the wire buffer storage being adjustable by a change of the curved course.

With respect to the limitation of the amount of welding wire contained in the wire buffer storage being adjustable by a change of the curved course, Lorentzen discloses the welding wire (wire electrode 20) inside of conduit (140) being provided to the torch housing (40) via the connection region in the rear end of the torch housing (40). Since the pulling acceleration may change as well as the angle of the torch cable (42) with respect to the torch housing (40) when the welding torch assembly is in use, the amount of welding wire (wire electrode 20) is implicitly adjustable by a change of the curved course caused by the movement of the torch assembly during use. Therefore, Lorentzen fully meets "the amount of welding wire contained in said wire buffer storage being adjustable by a change of said curved course" given its broadest reasonable interpretation.

With respect to the limitations of claim 4, Lorentzen discloses the member (conduit 140) comprising a wire core (liner with bore) arranged in an end region within the torch body so as to be freely movable in the longitudinal direction (see Figure 3).

With respect to the limitations of claim 7, Lorentzen disclose the conduit (140) with the liner being fixed to the rear end of the torch housing (40) and near the drive unit (pulling charging means 28). Therefore, Lorentzen fully meets "the member comprises a wire core fixed near the drive unit" given its broadest reasonable interpretation.

With respect to the limitations of claim 10, Lorentzen discloses the welding wire (wire electrode 20) being unguided after the drive unit (pulling charging means 28) and further being delimited by limit elements (delivery tube 122). Therefore, Lorentzen fully meets "the welding wire is unguided and wherein limit elements are arranged in the

torch body to delimit the curved course of the unguided welding wire" given its broadest reasonable interpretation.

With respect to the limitations of claim 11, Lorentzen discloses the connection of the hose pack (torch cable 42) to the torch body (torch housing 40) in the rear end of the torch body (torch housing 40) (see Figure 3). Clearly, there is a coupling means to allow the torch cable (42) into torch housing (40). Therefore, Lorentzen fully meets "the connection of the hose pack to the torch body is realized by a coupling device" given its broadest reasonable interpretation.

With respect to the limitations of claim 12, Lorentzen discloses the connection of the hose pack (torch cable 42) to the torch body (torch housing 40) in the rear end of the torch body (torch housing 40) (see Figure 3). Again clearly, there is a coupling means to allow the torch cable (42) into torch housing (40). Furthermore through the use of the welding torch assembly, the torch cable (42) will move, thereby the welding wire (wire electrode 20) is implicitly adjustable due to the movement of the torch cable (42). Therefore, Lorentzen fully meets "the hose pack is arranged to be adjustable relative to the torch body so as to enable a change of the amount of welding wire contained in the wire buffer storage by such an adjustment" given its broadest reasonable interpretation.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 3742

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lorentzen (U.S. Patent No. 5,521,355).

Lorentzen discloses all of the limitations of the claimed invention, as previously set forth, except for the wire core terminating immediately after the connection region. It would have been obvious to one of ordinary skill in the art at the time of the invention

was made to modify the location of where the wire core terminates to immediately after the connection region, since it has been held that rearranging parts of an invention involves only routine skill in the art. Furthermore, to provide the wire core terminating immediately after the connection region would have been a mere engineering expediency as it would be obvious to try different location of the termination of the wire core with respect to the connection region, providing predictable solutions, with a reasonable expectation of success.

12. Claims 2 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noble (U.S. Patent No. 1,508,713) in view of Brown (United Kingdom Publication No. GB 2120692 A).

Noble discloses all of the limitations of the claimed invention, as previously set forth, except for a sensor to capture the welding wire stored in the wire buffer storage; and the sensor being arranged in front of the drive unit, viewed in the conveying direction of the welding wire.

However, sensors in the wire storage loop in front of a drive unit are known in the art. Brown, for example, teaches a sensor element (10) being arranged in front of a drive unit (capsan feeder 3) provides rapid and accurate acceleration/retardation of the wire feed immediately adjacent the arc location, thereby increasing the precision of the arc welding apparatus. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Noble with the sensing of the welding wire in the wire storage portion of Brown in order to provide rapid and accurate

acceleration/retardation of the wire feed immediately adjacent the arc location, thereby increasing the precision of the arc welding apparatus.

13. Claims 2, 3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lorentzen (U.S. Patent No. 5,521,355) in view of Brown (United Kingdom Publication No. GB 2120692 A).

Lorentzen discloses all of the limitations of the claimed invention, as previously set forth, except for a sensor to capture the welding wire stored in the wire buffer storage; and the sensor being arranged in front of the drive unit, viewed in the conveying direction of the welding wire.

However, sensors in the wire storage loop in front of a drive unit are known in the art. Brown, for example, teaches a sensor element (10) being arranged in front of a drive unit (capsan feeder 3) provides rapid and accurate acceleration/retardation of the wire feed immediately adjacent the arc location, thereby increasing the precision of the arc welding apparatus. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Lorentzen with the sensing of the welding wire in the wire storage portion of Brown in order to provide rapid and accurate acceleration/retardation of the wire feed immediately adjacent the arc location, thereby increasing the precision of the arc welding apparatus.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen J. Ralis whose telephone number is 571-272-6227. The examiner can normally be reached on Monday - Friday, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen J Ralis/
Examiner, Art Unit 3742

/TU B HOANG/
Supervisory Patent Examiner, Art Unit 3742

Stephen J Ralis
Examiner
Art Unit 3742

SJR
May 23, 2008